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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte OTTO K. SIEVERT

Appeal 2016-008502
Application 14/126,352
Technology Center 2600

Before JASON V. MORGAN, AMBER L. HAGY, and
MICHAEL J. ENGLE, *Administrative Patent Judges*.

HAGY, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant¹ appeals under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1–15, which are all of the pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ Appellant identifies the real party in interest as Hewlett-Packard Development Company, LP. (App. Br. 3.)

STATEMENT OF THE CASE

Introduction

The claims are directed to a system and method of visual layering. According to Appellant, “physical and virtual objects are treated as visually interchangeable ‘layers.’ . . . [T]hese layers represent logical layers and allow systems and devices . . . to control the workspace environment such that one layer (e.g., physical object or set of digital information) has the appearance of being on top of another layer.” (Spec. ¶ 9.)

Exemplary Claim

Claims 1, 7, and 10 are independent. Claim 1, reproduced below, is exemplary of the claimed subject matter:

1. A system, comprising:
 - a camera to identify a physical object positioned in a workspace;
 - a display to display first digital information in the workspace;
 - a layering module to treat the physical object as a first layer in the workspace and to treat the first digital information as a second layer in the workspace; and
 - a controller to control the visual order of the first and second layers via display of the first digital information.

References

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Hildreth	US 2009/0027337 A1	Jan. 29, 2009
Kawamura	US 2012/0069180 A1	Mar. 22, 2012

Scott R. Klemmer et al., *Integrating Physical and Digital Interactions on Walls for Fluid Design Collaboration*, 23 Human-Computer Interaction 138–213 (2008) (hereinafter “Klemmer”).

Michael Wooldridge et al., *Teach Yourself Visually Adobe Photoshop CS4*, 168–99 (2009) (hereinafter “Wooldridge”).

Rejections²

Claims 1–15 stand rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter. (Final Act. 13–14.)

Claims 1, 4–7, 9, 10, 12, 14, and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawamura and Wooldridge. (Final Act. 16–23.)

Claims 2 and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawamura, Wooldridge, and Hildreth. (Final Act. 23–25.)

Claims 3, 8, and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawamura, Wooldridge, and Klemmer. (Final Act. 25–27.)

² As stated in the Advisory Action dated October 21, 2015 (“Adv. Act.”), the Examiner withdrew rejections of claims 1–6 under 35 U.S.C. §§ 112(a) and 112(b) in view of the Appellant’s amendment of the claims after the Final Rejection, which amendments were entered by the Examiner. (*See* Adv. Act. 1–2.)

Issues

1. Whether the Examiner erred in rejecting claims 1–15 under 35 U.S.C. § 101 as being directed to non-statutory subject matter.
2. Whether the Examiner erred in finding the combination of Kawamura and Wooldridge teaches or suggests the invention as recited in claim 1.
3. Whether the Examiner erred in finding the combination of Kawamura and Wooldridge teaches or suggests the invention as recited in claims 5, 9, 14, and 15.
4. Whether the Examiner erred in finding the combination of Kawamura, Wooldridge, and Hildreth teaches or suggests the invention as recited in claim 11.

ANALYSIS

A. § 101 Rejection

The Supreme Court has set forth an analytical “framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice Corp. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2355 (2014) (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 71–73 (2012)). In the first step, we determine whether the claims at issue are “directed to” a judicial exception, such as an abstract idea. *Alice*, 134 S. Ct. at 2355. If not, the inquiry ends. *Thales Visionix Inc. v. U.S.*, 850 F.3d 1343, 1346 (Fed. Cir. 2017); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339 (Fed. Cir. 2016). If the claims are determined to be directed to an abstract idea, then we consider under step two whether the claims contain an

“inventive concept” sufficient to “transform the nature of the claim into a patent-eligible application.” *Alice*, 134 S. Ct. at 2355 (quotations and citation omitted).

The Examiner finds that claims 1, 7, and 10 “are directed to the abstract idea of displaying an image on a physical object (e.g., a wall), which was identified by a camera.” (Final Act. 6, 13.) The Examiner further finds “[t]he image would be the second layer and the physical object (e.g., a wall) would be the first layer and the visual order is controlled by projecting or stopping projection of the image.” (*Id.* at 13.) The Examiner also finds:

The claim(s) does/do not include additional elements that are sufficient to amount to significantly more than the judicial exception because the additionally recited elements amount to mere instructions to implement the idea on a controller and a display that serves to perform generic computer functions that are well-understood, routine and conventional activities previously known to the pertinent industry.

(*Id.*)

We are persuaded of error in the Examiner’s finding the claims to be directed to an abstract idea. As the Federal Circuit has explained, “At step one, ‘it is not enough to merely identify a patent-ineligible concept underlying the claim; we must determine whether that patent-ineligible concept is what the claim is ‘directed to.’” *Thales Visionix*, 850 F.3d at 1349 (quoting *Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc.*, 827 F.3d 1042, 1045 (Fed. Cir. 2016)). Although the claims apply the concept of projecting an image on a physical object, we disagree that the claims are “directed to” only that concept. Rather, claim 1 specifies a particular configuration of a camera, a display, a layering module, and a controller that *controls the order of visual display* of digital information projected into a workspace with a

physical object. Similarly, claims 7 and 10 require not merely projecting digital information onto a physical object in a workspace, but also treating the digital information and a physical object as distinct layers and *altering the visual adjacency of those layers*.

We conclude the Examiner has not sufficiently addressed how controlling the visual order of display of a physical object and digital information projected into a workspace is an “abstract idea ‘of itself.’” (Ans. 27.) Thus, we are persuaded the Examiner has not shown that independent claims 1, 7, and 10 are directed to patent-ineligible subject matter. The dependent claims stand with their respective independent claims.

B. § 103(a) Rejections

We have reviewed the Examiner’s rejections under 35 U.S.C. § 103(a) in light of Appellant’s arguments the Examiner has erred. We disagree with Appellant’s conclusions and we adopt as our own: (1) the findings and reasons set forth by the Examiner in the action from which this appeal is taken (Final Act. 7–9, 16–28) and (2) the reasons set forth by the Examiner in the Examiner’s Answer in response to Appellant’s Appeal Brief. (Ans. 36–47.) We concur with the conclusions reached by the Examiner, and we highlight the following for emphasis.³

The Examiner finds the combination of Kawamura and Wooldridge teaches or suggests the limitations of independent claim 1, relying principally on Kawamura and adding Wooldridge for its teaching of, *inter*

³ Only those arguments made by Appellant have been considered in this decision. Arguments Appellant did not make have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2015).

alia, reordering layers in an image. (Final Act. 16–19; Ans. 36–41.)

Appellant argues the Examiner’s findings are in error because Kawamura does not teach “the concept of a camera that identifies a physical object position[ed] in a workspace.” (App. Br. 14–15.) We disagree. As the Examiner finds, and we agree, Appellant’s Specification states that “identify[ing] a physical object positioned in a workspace,” as claimed, includes “determining a position (e.g., coordinates) of the object within the workspace.” (Ans. 36–37; Spec. ¶ 25.) As the Examiner further finds, and we agree, Kawamura teaches identifying a physical object positioned in a workspace by a “camera in combination with the image control device.” (Ans. 40 (citing Kawamura Figs. 11, 14).) In particular, the Examiner finds Kawamura uses image data from “photographing unit 4” (Fig. 11) to determine the location of the display object so that the image projected on the display object will be properly aligned. (*See* Ans. 37–40 (citing Kawamura ¶ 114, Fig. 11); *see also* Kawamura ¶¶ 111–19.) As Kawamura expressly notes, “photographing unit 4” may be used to separate “the display object region from the information provision region” (Kawamura ¶ 120), which further supports the Examiner’s finding that Kawamura teaches using a camera to determine a position of a physical object within the workspace. Thus, we are not persuaded the Examiner erred in finding Kawamura teaches or suggests “a camera to identify a physical object positioned in a workspace,” as recited in claim 1.

Appellant also argues the Examiner’s findings are in error because “Kawamura merely discusses the projection of images on a display object,” and fails to teach or suggest “a layering module that treats physical and displayed digital information as different layers, as recited in claim 1.”

(App. Br. 15.) We disagree. In describing the claimed “layering module,” Appellant’s Specification describes a system that may create the appearance of a digital projection being “on top of” a physical object, in one state, as well as “behind” the physical object in another state. (Spec. ¶¶ 15–22.) The Specification states: “To create the visual appearance of the projected digital information being ‘on top of’ the physical object, the system may simply project all of the digital information into the workspace including at the position where the physical object is located.” (*Id.* ¶ 22.) Alternatively, to switch the order of layers and “achieve the visual appearance of physical object being ‘on top of’ the projection,” the Specification states:

[T]he system may remove the digital information . . . corresponding to the coordinates of the physical object from the projection. For example, at the position where the physical object is located, the system may project a blank space (e.g., white or other suitable-colored light) while still projecting the original digital information . . . at all other positions in the workspace.

(*Id.* at 21.) In other words, the Specification describes controlling the order of layers by treating the digital information as the top layer (by projecting the digital information onto the physical object) or as the bottom layer (by effectively cutting out the portion of the image that would project onto the physical object, thus, creating the effect of projecting the digital information only onto the background behind the physical object). (See Spec. ¶¶ 15–22; see also Ans. 42–43.)

As the Examiner finds, and we agree, Kawamura similarly teaches “a projector can display information in a work space,” where the information includes digital information that is treated as a layer separate from a physical object in the workspace. (Ans. 41–43.) In particular, Kawamura teaches an

“information presentation apparatus” that “can project the display object image **1a** on the display object **111** within the information provision region, and project the information provision image **1b** on the information provision region other than the display object **111**.” (Kawamura ¶ 92, Fig. 4; *see also id.* ¶¶ 84, 93–99, Figs. 8, 12–14, 18, 20.) Within that disclosure, Kawamura teaches an example in which a “vehicle-shaped white model” is a physical object placed in front of a screen, wherein digital information (such as scenery) may be projected onto the background appearing to be behind the vehicle-shaped physical object and other digital information “representing colors or designs of the vehicle” may be projected onto the vehicle-shaped physical object. (Kawamura ¶¶ 92–99.) Kawamura further discloses that the appearance of the digital image being “behind” the physical object may be created, in a manner similar to that disclosed in Appellant’s Specification, by effectively removing the portion of the projected background digital image that would otherwise fall onto the physical object. (*See* Kawamura ¶ 94; Ans. 42–43.) Thus, we agree with the Examiner’s finding that Kawamura discloses treating digital information and a physical object as separate layers and further discloses controlling the visual order of those layers by display of the digital information. (*See* Ans. 36–43.)

Although the Examiner’s findings regarding Kawamura are sufficient to support the Examiner’s rejection under section 103, we further note that the Examiner also finds that Wooldridge teaches “an image can have multiple layers and that layers can be reordered, hidden, deleted, made transparent, added and altered.” (Ans. 41 (citing Wooldridge pp. 169–73, 175–79).) Appellant does not address the Examiner’s findings regarding Wooldridge, but argues only that “Wooldridge fails to disclose or render

obvious the missing elements.” (App. Br. 15.) Thus, we are not persuaded of error in the Examiner’s finding that Kawamura, alone or in combination with Wooldridge, teaches or suggests the limitations of claim 1.

Appellant’s argument that the Examiner erred in construing the terms “layering module” (claim 1) and “user input module” (claim 4) as means-plus-function terms under 35 U.S.C. § 112(f) (App. Br. 13–14) is also not persuasive of Examiner error in the rejection under section 103(a). In reviewing the Examiner’s finding that the claimed “layering module” and “user input module” are taught or suggested by the cited combination of references, we agree those limitations are taught by the prior art regardless of whether the terms are construed as means-plus-function terms.

For the foregoing reasons, we are not persuaded of error in the Examiner’s 35 U.S.C. § 103(a) rejection of independent claim 1, or of independent claims 7 and 10, which are argued collectively with claim 1. (App. Br. 16.) We, therefore, sustain the rejection of independent claims 1, 7, and 10 as unpatentable over the combination of Kawamura and Wooldridge.

Appellant’s contentions as to claims 5, 9, 14, and 15 amount to no more than terse statements of what these claims purportedly disclose, followed by a conclusory statement that Kawamura fails to disclose or render obvious those limitations. (App. Br. 16–18.) Such conclusory attorney assertions have little or no value in identifying the Examiner’s alleged error, and, consequently, have little persuasive value. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2015) (“A statement which merely points out what a claim recites will not be considered an argument for separate patentability of the claim”); *see also In re Lovin*, 652 F.3d 1349, 1357 (Fed. Cir. 2011). In

making such conclusory arguments, Appellant does not persuasively rebut the Examiner's findings that the combination of Kawamura and Wooldridge teaches or suggests the invention as recited in those claims. (*See* Ans. 42–44.) Therefore, we are not persuaded that the Examiner erred in rejecting claims 5, 9, 14, and 15, and we, therefore, sustain the rejection of those claims.

With regard to claim 11, which depends from claim 10 and recites “wherein the physical object is identified via infrared sensing,” the Examiner relies on the combination of Kawamura and Wooldridge, as stated for independent claims 1 and 10, and further relies on Hildreth as teaching “[i]nfrared light can be used to determine the distance to an object” and “[t]he distance can be used to determine if the object is in the image foreground or background.” (Ans. 46 (citing Hildreth ¶¶ 51, 71, 72).) Appellant argues the Examiner's findings are in error because “[d]etermining the distance to an object being imaged by a camera, however, fails to disclose or render obvious identifying the physical object.” (Reply Br. 8.) We disagree. As noted above, the Examiner finds, and we agree, Appellant's Specification states that an object may be “identified” by “determining a position (e.g., coordinates) of the object within the workspace.” (Spec. ¶ 25; Ans. 36–37.) We, therefore, are not persuaded the Examiner erred in finding the combination of Kawamura, Wooldridge, and Hildreth teaches or suggests the invention as recited in claim 11.

DECISION

The Examiner's rejection of claims 1–15 under 35 U.S.C. § 101 is reversed.

The Examiner's rejections of claims 1–15 under 35 U.S.C. § 103(a) are affirmed.

Because we have affirmed at least one ground of rejection with respect to each claim on appeal, the Examiner's decision is affirmed. *See* 37 C.F.R. § 41.50(a)(1).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED